Addendum to the
NOXIOUS WEED
RISK ASSESSMENT

Klamath National Forest

PROJECT NAME: Mt. Ashland LSR Habitat Restoration and Fuels Reduction Project

RANGER DISTRICT: Oak Knoll

COMPARTMENT(S): Cottonwood, Long John, Cow, Sterling, Hungry

Prepared by: /s/ Julie Knorr Date: 12/20/07

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I. Introduction

The Klamath National Forest has placed a high priority on management of noxious weeds, which includes reducing management related introduction and spread of noxious weeds on the Forest (USDA 2001). The purpose of this document is to evaluate the Preferred Alternative of the Mt. Ashland LSR Habitat Restoration and Fuels Reduction Project in sufficient detail to determine its effects on noxious weeds. This document is an addendum to the original risk assessment dated March 29, 2007 (USDA 2007a). This document will not repeat the original report, but will refer to the information available in the original risk assessment. In addition, this document includes sections titled Changes in Original Report to include any significant revisions to the original report. The purpose of this document is to evaluate the Mt. Ashland LSR Habitat Restoration and Fuels Reduction Project in sufficient detail to determine its effects on noxious weed species. This Risk Assessment follows the standards established in the Forest Service Manual direction (USDA 1995).

A. Location Information

See the original risk assessment (USDA 2007a).

For a map of the proposed project area, including the Preferred Alternative, see the *Mt. Ashland LSR Habitat Restoration and Fuels Reduction Project FEIS* (USDA 2008).

B. Noxious Weed List

See the original risk assessment (USDA 2007a).

Changes in Original Report:
In addition to using California Department of Food and Agriculture (CDFA), Siskiyou County, and California Invasive Plant Council noxious weed lists to develop the *Klamath National Forest Noxious Weed List* (Appendix A), the Klamath has further developed a strategy to focus on the weeds that pose the greatest threat to forest ecosystems. These species are rated as "A" on the CDFA list. These are the species that are aggressively treated and monitored by all cooperating agencies, including the Klamath National Forest. The remaining "B" and "C" rated species on the Klamath noxious weed list are treated and monitored where they threaten specific resources such as wilderness areas, rare species habitat, Botanical Areas and other specific areas. Preventing "A" rated species from being introduced or spreading within project areas is the primary focus of project weed risk assessments.

II. Current Management Direction

See the original risk assessment (USDA 2007a).

III. Description Of Proposed Action

A. Preferred Alternative

The Preferred Alternative was developed after issuance of the Draft EIS to respond to comments and input from the public. Public input was provided during the 45-day comment

period and during nine public field trips that occurred during the 2007 field season. Modifications were made to the existing proposal to further respond to concerns over spur road construction, concerns about effects along the Pacific Crest Trail, concerns about the economics of the project, and to respond to a general support of underburning as a fuels reduction treatment. The Preferred Alternative has the following changes from Alternative 2:

- Stands 250, 312, 313, and 314 along the PCT have been dropped.
- Stand 703 has been dropped to avoid road re-construction on roads 40S20.1 and 1A.
- Stands 235 and 339 have been dropped due to the dropping of spur road T235.
- Stand 440 has been dropped due to infeasibility of underburning that stand.
- There are 13 fewer spur roads than Alternative 2; remaining spurs are only located on ridges tops or upper slopes in this alternative.
- Spur road mileage has been reduced from 6.72 to 1.70 miles; spur roads T206A, T206B, T228A, T228B, T235, T254, T264, T277A, T317A, T320A, T320B, T320C, T380, T383, and T401 have been dropped and ridgetop road 40S02.1 has been extended approximately 1/10th of a mile.
- There is reduced helicopter yarding (from 1071 to 935 acres).
- There is reduced ground based equipment yarding (tractor, tractor end-line, mechanical harvester) (from 1202 to 1056 acres).
- There is increased cable yarding (from 1602 to 1610).
- There are more new landings proposed to facilitate yarding but less acreage affected due to smaller skyline landings on system roads (43 new landings, 22 acres).
- There are fewer acres treated with timber harvest (from 3875 to 3601).
- There is more underburning to reduce fine fuels and ladder fuels outside of thinning stands (from 120 to 1,453 acres); the additional underburning consists of six "batched" underburn areas as displayed on Map X.
- There will be 208 less acres of mastication and mastication will occur only on slopes $\leq$ 35%.
- In true fir stands, as part of the prescription, red fir will be favored in stands that are dominated by white fir to increase diversity.

Many features of the Preferred Alternative are similar to the other action alternatives; such as thinning prescriptions. The specific components of the Preferred Alternative, that are different from the other action alternatives, are displayed below in the description (refer to Appendix X for information specific to each unit). For treatment stands, spur location, and landing locations, refer to Maps x and x.

The Preferred Alternative will treat 4,468 acres in 247 stands and 1297 acres in six underburn areas. Activity and natural fuels will be treated in all stands. Silvicultural and fuels prescriptions are the same as those described for Alternative 2 (see prescriptions below) but the acres treated are different. Road actions are the same as those displayed for Alternative 2 except that three fewer existing roads will be used and 1.7 miles of temporary spur roads will be constructed (5.01 fewer miles than Alternative 2). It is estimated that the number of landings constructed will increase but less acreage will be affected (43 landings and 22 acres potentially disturbed) than under the other action alternatives. Refer to Appendix X for specific treatment information.

Restoration Silvicultural Treatments

- Variable density thinning of trees >9" DBH on 2,543 acres in 154 stands

- Small diameter thinning of trees ≤9" DBH and below on 408 acres in 16 stands; hand-piling (253 acres), underburning (97 acres) and mastication (58 acres) will be used to treat resultant fuels.

Defensible Fuel Profile Zone

- Variable density thinning of trees larger than 9" DBH on 1,058 acres in 42 stands as part of DFPZs along upper slopes and ridges

Associated Activities

- Small diameter thinning of understory trees in a subset of the 3,601 acres and 196 stands identified for variable density thinning above (thinning will occur as needed on a stand by stand basis).

Restoration Support Actions

- Helicopter yarding systems to remove trees on 935 acres in 53 stands

- Skyline systems to remove tress on 1,610 acres in 79 stands

- Ground-based equipment systems to remove trees on 1,056 acres in 64 stands

- An estimated 35 existing landings will be used and small material or brush may be cleared to accommodate yarder swing or processing of small trees for bio-mass utilization.

- An estimated 43 new landings will be constructed. No new landings will be constructed within RRs. Ground-based and skyline landings will be between 0.25 and 0.5 acres in size, helicopter landings will be up to 1 acre in size. The total acreage disturbed by landing construction will not exceed 22 acres.

- In addition to constructed landings and existing landings, logs will be landed on the existing road bed during cable yarding ("continuous landing" along roads) on roads 41S09, 41S10, 40S06.2, 40S06, 48N28, 41S15, and 40S14. Minor clearing of small material and brush may occur where needed and roads may be closed to public access during operation.

- Landings will be hydrologically restored post-project. If it is determined by an earth scientist that special erosion control measures are needed, they will be implemented on a site by site basis.

Fuels Reduction Treatments

- Whole tree removal in stands treated by ground-based yarding systems on 1,056 acres in 64 stands

- Yard tops-attached in skyline and helicopter stands to minimize activity fuels.

- Mastication to reduce activity and natural fuels on 202 acres in 15 stands; mastication combined with underburning on 735 acres in 43 stands; mastication combined with hand-piling on 42 acres in 3 stands.

- Hand-pile and burn to reduce activity and natural fuels on 566 acres in 34 stands; hand-pile and burn followed by underburning on 55 acres in 1 stand.

- Underburning within thinning stands to reduce activity and natural fuels on 1,916 acres in 95 stands.

- Underburning combined with hand-piling within thinning stands adjacent to private land on 85 acres in one stand.

- Underburning as a stand-alone treatment to reduce natural fuel build-up in two stands on 156 acres

- Underburning outside of thinning stands to reduce fine ground fuels and ladder fuels in "batched" burn areas on 1,297 acres.

- Thinning small trees and burning material to reduce ladder and surface fuels within RRs on 303 acres in 31 stands

Restoration Support Road Actions

Roads changed from open to year-round closure, roads decommissioned, and roads put on the system are the same as displayed for Alternatives 2, 4 and 5.

Table xx. Preferred Alternative Restoration Support Road Actions

Management Activity	Road Segment	Miles
Existing Unauthorized roads used for the Project: opened, used, hydrologically stabilized and closed	40S09.1A	0.77
	40S09.1A1	0.11
	40S09.2	0.18
	40S12.1	0.15
	40S13.1	0.42
	40S13.2	0.08
	40S14.1	0.12

Management Activity	Road Segment	Miles
	40S14.2	1.14
	40S16.1 segment	0.10
	40S16.5 segment	0.04
	40S16.5B	0.17
	40S20.1	0.47
	40S20.1A	0.76
	41S07.3	0.80
	41S09A.1	0.21
	41S10.2	0.07
	41S10.3	0.14
	41S15.1 segment	0.19
	41S15.3	0.73
	41S15.3A	0.53
	48N30A.1	0.18
	48N37.1	0.64
	41S13 to Stand 381	~0.38
	40S06.2 to Stand 253	~0.25
New Temporary Spur Road Construction: construct, use, decommission	T207	0.43
	T216	0.14
	T232	0.06
	T266	0.14
	T300	0.12
	T317	0.47
	T380A	0.16
	T206C	0.19

B. Resource Protection Measures (Conservation Measures)

Mitigation for weed species of concern has been designed into the proposed action. These measures are designed to prevent the introduction of new weed species locations into the project area as a result of the project activities.

1) C Provision C6.36 Equipment Cleaning, (5/01), will be included in the contract whenever heavy equipment is used to treat fuels, and in the timber sale contract.
2) Wherever seed and/or straw is used to restore areas of ground disturbance, certified weed free seed and straw will be specified in the contract.

Changes in Original Report:

3) The project area will be monitored, as part of the Forest noxious weed program, for 3 years after the project is completed or as long as it takes

the vegetation to recover from the disturbance (as measured by ground duff cover and forb and shrub layer cover).

IV. Existing Environment

A. Inventory and Mapping

See the original risk assessment (USDA 2007a).

All areas within the project area boundary which were proposed for ground disturbing activities in the Draft Environmental Impact Statement (USDA 2007) have been surveyed for noxious weeds. All areas of proposed ground disturbance within the new Preferred Alternative have been surveyed for these species with the exception of the 1297 acres of additional underburning outside of treatment stands. These areas are primarily undisturbed stands between the proposed treatment units and adjacent geographical features. There is a very low potential that new noxious weed locations would be located in these areas with dense canopy cover and no recent disturbance.

B. Species Accounts

See the original risk assessment (USDA 2007a).

V. Effects Of The Alternatives

A. Interactions Important to Risk Assessment Analysis

See the original risk assessment (USDA 2007a).

B. Effects of the No Action Alternative

In this alternative, no commercial thinning, fuels reduction activities, pre-commercial thinning or roadwork would be implemented to accomplish project objectives. Stand development and fuel dynamics currently occurring in the project area will continue. The effects to noxious weeds in this alternative are related to the increased risk of wildfire that would result from the No Action alternative. Excess fuel levels would not be reduced in this alternative.

There is a higher risk of noxious weed invasion from the effects of a stand replacing wildfire that could reduce the level of live canopy cover and ground cover levels. Because the one known site of a noxious weed is located approximately 3/4 mile outside the project boundary, this increased risk would still be low. Yellow starthistle is not likely to be transported this distance in the event of a wildfire. There is an overall low risk of noxious weed introduction and spread from this alternative and a low potential for direct, indirect, or cumulative effects (USDA 2007c).

C. Effects of the Preferred Alternative

Because the one known site of a noxious weed is located approximately 3/4 mile outside the project boundary, there is a low potential that this species may spread. Yellow starthistle is not likely to be transported this distance through project activities. In this alternative, adequate

overstory and understory vegetative cover and ground cover levels will be retained to minimize the risk of noxious weed introduction and spread within the project area. Mitigation measures to reduce the introduction of weed seeds on equipment and straw will be incorporated into project contracts. The project area will be monitored after the project is implemented, and any new sites discovered will be incorporated into Forest mitigation measures as needed. Overall, there will be a **low risk** of noxious weed introduction and spread from this alternative and a low potential for direct, indirect, or cumulative effects.

References

CDFA 2005 California Department of Food and Agriculture Website. *Noxious Weed Index*. http://www.cdfa.ca.gov/phpps/ipc/weedinfo/winfo_list-pestrating.htm, accessed September 2006.

California Invasive Plant Council (Cal-IPC). 2006. *California Inventory of Invasive Plants*. February 2006.

USDA, Forest Service. November, 1995. *Forest Service Manual 2080, Noxious Weed Management*. USFS. Washington, D.C.

USDA, Forest Service (USFS). October 22, 2001. Prepared by Ken Coop and Anne Yost. *Noxious and Invasive Weeds Program Strategy, Northern Province.* USFS, Shasta-Trinity and Klamath National Forests. Redding and Yreka, California.

USDA Forest Service 2007. *Mt. Ashland LSR Habitat Restoration and Fuels Reduction Project Draft Environmental Impact Statement*. Supervisor's Office, Klamath National Forest, Yreka, CA. May 2007.

USFA Forest Service. 2007a. *Mt. Ashland LSR Habitat Restoration and Fuels Reduction Project Noxious Weed Risk Assessment.* Supervisor's Office, Klamath National Forest, Yreka, CA. March 29, 2007.

USDA Forest Service 2008. *Mt. Ashland LSR Habitat Restoration and Fuels Reduction Project Final Environmental Impact Statement*. Document in progress, expected Spring 2008. Supervisor's Office, Klamath National Forest, Yreka, CA.

APPENDIX A
Klamath National Forest Noxious Weed List

Scientific Name (Jepson 1993)	Plants Code	Common Name(s)	CDFA Rating *	Cal-IPC Rating*	Family
Acroptilon repens (L.) DC.	ACRE3	Russian knapweed	B	Moderate	Asteraceae
Cardaria draba (L.) Desv.	CADR	Heart-podded hoary cress, Whitetop	B	Moderate	Brassicaceae
Cardaria chalapensis (L.) Hand.-Maz	CACH10	Lens-podded Whitetop	B	Moderate ♦	Brassicaceae
Carduus nutans L.	CANU4	Musk thistle	A	Moderate	Asteraceae
Carduus pycnocephalus L.	CAPY2	Italian thistle Plumeless Italian thistle	C	Moderate	Asteraceae
Centaurea diffusa Lam.	CEDI3	Diffuse knapweed, white knapweed	A	Moderate	Asteraceae
Centaurea maculosa Lam.	CEMA4	Spotted knapweed	A	High	Asteraceae
Centaurea x pratensis Thuill.	CEPR2	Meadow knapweed	A	Moderate ♦	Asteraceae
Centaurea solstitialis L.	CESO3	Yellow starthistle	C	High	Asteraceae
Centaurea squarrosa Wild.	CESQ	Squarrose knapweed	A	Moderate	Asteraceae
Chondrilla juncea L.	CHJU	Rush skeleton weed, hogbite	A	Moderate	Asteraceae
Cirsium arvense (L.) Scop.	CIAR4	Canada thistle	B	Moderate	Asteraceae
Cynoglossum officinale L.	CYOF	Houndstongue	Q	Moderate	Boraginaceae
Cytisus scoparius (L.) Link.	CYSC4	Scotch broom	C	High	Fabaceae
Euphorbia esula L.	EUES	Leafy spurge	A	High ♦	Euphorbiaceae
Genista monspessulana (L.) L. Johnson	GEMO2	French broom	C	High	Fabaceae
Hypericum perforatum L.	HYPE	Klamath weed, St. John's wort	C	Moderate	Hypericaceae
Isatis tinctoria L.	ISTI	Dyer's woad, Marlahan mustard	B	Moderate	Brassicaceae
Lepidium latifolium L.	LELA2	Perenn. pepperweed, tall whitetop	B	High	Brassicaceae
Linaria dalmatica (L.) P. Mill ssp. *dalmatica*	LIDAD	Dalmation toadflax	A	Moderate	Schropulariaceae
Lythrum salicaria L.	LYSA2	Purple Loosestrife	B	High	Lythraceae
Onopordum acanthium L.	ONAC	Scotch thistle, Cottonthistle	A	High	Asteraceae
Onopordum tauricum Willd.	ONTA	Taurian thistle, Bull cottonthistle	A	None	Asteraceae
Salvia aethiopis L.	SAAE	Mediterranean sage	B	Limited	Lamiaceae

APPENDIX A

Pest Ratings:
California Dept. of Food and Agriculture (CDFA):

A: Eradication, containment, or entry refusal at State level.
B: Species more widespread. County Ag. Commissioner discretion on eradication, containment or control.
C: Species very widespread. County Ag. Commissioner discretion on eradication, containment or control.
Q: Rating as "A" is pending at the State or County level.

California Invasive Plant Council (Cal-IPC):

High: These species have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment. Most are widely distributed ecologically.

Moderate: These species have substantial and apparent—but generally not severe—ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal, though establishment is generally dependent upon ecological disturbance. Ecological amplitude and distribution may range from limited to widespread.

Limited: These species are invasive but their ecological impacts are minor on a state-wide level or there was not enough information to justify a higher score. Their reproductive biology and other attributes result in low to moderate rates of invasiveness. Ecological amplitude and distribution are generally limited, but these species may be locally persistent and problematic.

♦ = Alert

References:

California Department of Food and Ag; Pest Ratings of Noxious Weed Species, 2004, from Website:
http://www.cdfa.ca.gov/phpps/ipc/weedinfo/winfo_list-pestrating.htm
Cal-IPC; California Invasive Plant Inventory, February, 2006.
The Jepson Manual, 1993; University of California Press, James Hickman, Editor